

REMARKS

With the entry of this amendment, claims 58-63 are pending and under examination in this application. Claims 1-38 were previously canceled without prejudice or disclaimer, and claims 39-57 are canceled without prejudice or disclaimer in this amendment to expedite prosecution. Claims 58-63 are newly presented here.

Amendments to the Specification

Several amendments to the specification are presented herein. The amendments on pages 11, 54, 56, and 76 delete references to hyperlinks. The amendment on page 12 incorporates the material of originally filed claim 16 (see page 80, lines 8-22 of the application) into the specification (MPEP 2163.06 (III)). Various amendments are presented to identify trademarks in the specification.

Amendments to the Claims

The newly presented claims find support in various locations. Claim 58 (a), (b), and (c) presents material from originally filed claim 16(a), (b), and (c); the added limitation “an isolated polynucleotide” is supported at, *inter alia*, page 7, lines 15-17 and page 15, line 29 to page 16, line 3. Claim 59 is supported by originally filed claim 16(e). Claim 60 is supported by originally filed claim 16(d), and, *inter alia*, at page 12, line 18 to page 13, line 10 (peptides of ten amino acids in length); page 54, line 25 to page 55, line 11 (peptides which bind to HLA molecules; peptides of nine and ten amino acids in length) and at page 76, line 5 to page 77, line 3 (peptides of nine amino acids in length). Claim 61 is supported by originally filed claim 16(d), and, *inter alia*, at page 12, line 18 to page 13, line 10 (peptides of ten amino acids in length);

page 54, line 25 to page 55, line 11 (peptides which bind to HLA molecules; peptides of nine and ten amino acids in length) and at page 76, line 5 to page 77, line 3 (peptides of nine amino acids in length). Claim 62 is supported by originally filed claim 18 and at, *inter alia*, page 54, lines 21-22. Claim 63 is supported at, *inter alia*, page 11, line 26 to page 12, line 2 and at page 14, line 10 to page 15, line 9.

Objections to the Specification

The specification was objected to because the disclosure referred to embedded hyperlinks. The hyperlinks have been deleted in the amendments to the specification presented herein, and hence withdrawal of this objection is respectfully requested.

The specification was objected to because of improperly demarcated trademarks. The amendments presented above identify trademarks used in the application, and hence withdrawal of this objection is respectfully requested.

The specification was objected to as failing to provide antecedent basis for the claimed subject matter. The limitation “at least 20 nucleotide bases in length” was present in the claims as originally filed, but not in the specification. The specification has been amended to incorporate the language of originally filed claim 16, in accordance with MPEP 2163.06 (III), which thus provides antecedent basis for the current claims. The limitation “selectively” was also objected to. This amendment also provides antecedent support for the limitation of “selectively;” please also note the disclosure at page 15, lines 1-3. Withdrawal of this objection is respectfully requested.

Rejection under 35 U.S.C. § 101

Claims 39, 40, 42, 43, 45, 46, 48, 50, and 51 were rejected under 35 U.S.C. § 101 as being directed to non-statutory subject matter.

Claim 58 replaces portions of claim 39, and is now amended to recite “An isolated polynucleotide...” All other pending claims (claims 59-63) also recite “An isolated polynucleotide...” Withdrawal of the rejection is thus respectfully requested.

Rejections under 35 U.S.C. § 112, first paragraph

Claims 39-48, 50 and 51 were rejected under 35 U.S.C. § 112, first paragraph, as containing subject matter which was not adequately described in the specification, or which was not enabled. As there are multiple rejections under 35 U.S.C. § 112, first paragraph, the rejections are addressed by the page numbers or paragraph numbers in which they are presented in the Office Action mailed on May 6, 2003, Paper No. 13.

Regarding the rejection in paragraph 13 of Paper No. 13, this rejection is respectfully traversed. Newly presented claims 59 and 63 are directed to complementary polynucleotides. The specification recites “The invention provides polynucleotides corresponding or complementary to all or part of the SGP28 gene as described herein...” at page 4, lines 15-16. As there is no question that the sequences described by sequence ID numbers (SEQ ID NO.’s) are described, those disclosed sequences combined with this portion of the specification provide support for the complementary sequences claimed. Accordingly, withdrawal of the rejection is respectfully requested.

Regarding the rejection in paragraph 14 of Paper No. 13, this rejection is respectfully traversed. An explicit written description of every codon for each particular amino acid in a

given polypeptide is not necessary, and is indeed discouraged by the Patent and Trademark Office. One of skill in the art could easily identify alternative codons for each codon of the polynucleotide sequences of the claims which will result in the same amino acid sequence when expressed. Thus a written description describing each and every codon of the polynucleotide sequences which do not change the amino acid sequence is unnecessary, and would simply add needless bulk to the patent application. Regarding the more specific rejection in the only full paragraph on page 8 of Paper No. 13, as the hybridization limitations have been removed from the newly presented claims, this rejection is rendered moot.

With respect to the observation in the first complete paragraph on page 9 of Paper No. 9, the Applicants' claims recite that specified amino acid sequences be encoded by polynucleotides. This rejection appears to be directed to claims with no sequence limitations recited whatsoever, and Applicants respectfully request that it be withdrawn, as the rejections described in that paragraph do not apply to the current claims.

With respect to the observations in the second complete paragraph of page 10 of Paper No. 13, given that the sequences are adequately described, substitution of U for T is straightforward, and the objections lodged here do not apply to the current claims.

With respect to the rejections in paragraph 15 of Paper No. 13, the rejections seem to be based on non-enablement of mutants of the protein described in SEQ ID NO: 3. Again, the pending claims recite particular amino acid sequences which are encoded, and Applicants respectfully request that this rejection be withdrawn.

In view of the foregoing arguments, withdrawal of the rejections under 35 U.S.C. § 112, first paragraph, is respectfully requested.

Rejections under 35 U.S.C. § 112, second paragraph

Claims 39-48, 50 and 51 were rejected under 35 U.S.C. § 112, second paragraph as being indefinite.

The claims were rejected as being indefinite due to the recitation of the term “stringent conditions” in claims 39, 42, 45, and 48. The Applicants thank the Examiner for the suggestion of how to obviate the rejection. While the term “stringent conditions” is amply defined in the specification, the currently pending claims 58-63 do not recite this limitation. Accordingly this rejection is rendered moot, and withdrawal of the rejection is respectfully requested.

Rejection under 35 U.S.C. § 102(b)

Claims 39, 42, 45, 46, 48, 50 and 51 were rejected under 35 U.S.C. § 102(b) as being anticipated by Database GenEMBL Accession No. X94323.

Applicants note that, for a rejection under 35 U.S.C. § 102(b), each and every element of the claim must be found in the prior art. As the hybridization language has been removed from new claims 58-63, and the previously pending claims are canceled, the “hybridization” test is no longer appropriate in assessing the prior art. Rather, the question is whether the sequences specified by the claims are disclosed in the prior art. There are differences between the sequence disclosed in X94323 and in SEQ ID NO: 2 of the instant application, and thus withdrawal of the rejection over the sequence disclosed in X94323 is respectfully requested. Further, the much shorter sequences of SEQ ID NO: 17, SEQ ID NO: 18, SEQ ID NO: 19, SEQ ID NO: 20, SEQ ID NO: 21, SEQ ID NO: 22, SEQ ID NO: 23, SEQ ID NO: 24, SEQ ID NO: 25, SEQ ID NO: 26, and SEQ ID NO: 27, as claimed in claim 62; the 9- and 10-amino acid-long

fragments of claims 60 and 61; and the 226 amino acid sequence of claim 58(c) are not disclosed in X94323. Withdrawal of this rejection is thus respectfully requested.

Rejection under 35 U.S.C. § 102(a)

Claims 39 and 51 were rejected under 35 U.S.C. § 102(a) as being anticipated by WO 99/06550.

SEQ ID NO: 311 of WO 99/06550 was cited as teaching an isolated nucleic acid molecule having an amino acid sequence comprising the amino acid sequence set forth in SEQ ID NO: 17 of the instant application. However, the nucleic acid molecule referred to in WO 99/06550 encodes a 39-amino acid-long sequence, while SEQ ID NO: 17 of the instant application is only 9 amino acids long. Instant claim 62 (where SEQ ID NO: 17 is now claimed) recites the sequence using “consisting of” instead of “having,” and therefore the claim cannot read on the polynucleotide encoding the 39 amino acid sequence of WO 99/06550. Withdrawal of this rejection is thus respectfully requested.

Rejection under 35 U.S.C. § 103(a)

Claims 39, 42, 45, 46-48, 50 and 51 were rejected under 35 U.S.C. § 103(a) as being obvious over Database GenEMBL Accession No. X94323 in view of Precup et al. (Blood 77:1929-1936 (1991)).

As the Examiner notes, X94323 does not teach fragments of the polynucleotides of the claims. However, Precup does not remedy this deficiency of X94323 with respect to the current claims, which refer to sequences specified by SEQ ID NO. There is no guidance in Precup to select the specific sequences of the current claims, and thus the combination of X94323 and

Precup does not establish a *prima facie* case of obviousness against newly presented claims 58-63, as every limitation of the claims cannot be found in a combination of the references. Accordingly, Applicants respectfully request withdrawal of this rejection.

CONCLUSION

Applicants submit that all issues have been addressed, and that the currently pending claims are in condition for allowance. If the Examiner believes that a telephone conference would be of use in resolving outstanding issues, he is invited to contact the undersigned agent at the telephone number below.

In the unlikely event that the transmittal letter is separated from this document and the Patent Office determines that an extension and/or other relief is required, applicants petition for any required relief including extensions of time and authorize the Assistant Commissioner to charge the cost of such petitions and/or other fees due in connection with the filing of this document to **Deposit Account No. 03-1952** referencing docket No. 511582002300.

Respectfully submitted,

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